



# MANAGEMENT OF WASTE WATER FROM THE VINEYARDS OF SAINT-EMILION IN FRANCE

A SMART AGRICULTURE CASE WITH THE MEDIATION OF STAKEHOLDERS THANKS TO THE GENERIC INTERNET OF THINGS PLATFORM COMMONSENSE

*In the framework of the management of a water treatment plant in Gironde, France, for the treatment of Saint-Emilion vineyards' waste water, Vertical M2M was put in charge by CUMA Saint-Emilion to design and operate an Internet of Things management system of waste water tanks involving different stakeholders. Objectives were to make operating processes more fluid thanks to instant communication, monitor waste water production by winemakers and smooth the load supported by the water treatment.*

## KEY DATA

- Between 200 and 250 participant vineyards
- Project initiated in 2005 which continues today (2016)
- Capacity of the water treatment plant: 33,000 m<sup>3</sup>

## INNOVATIONS

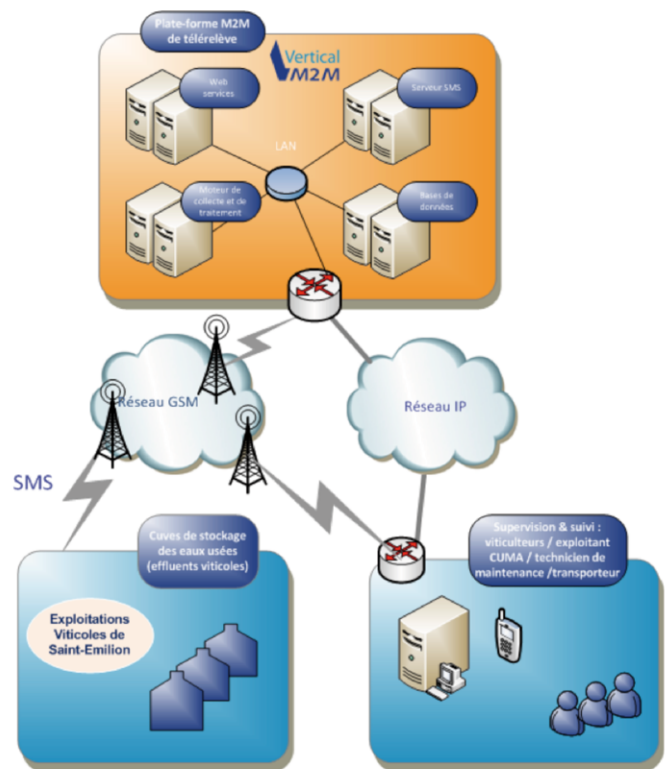
- ▶ The solution includes level sensors, cellular communication and the IoT CLOUD platform CommonSense. The platform behaves as the mediator for a better organization and global productivity:
  - Cellular connectivity and near real time data platform regarding tank levels;
  - Organizational mediation thanks to multi-level management with 4 groups of stakeholders' accounts:
    - 1. Winemakers: monitor the production of waste water
    - 2. CUMA, the operator is able to anticipate needs and communicate information about the water tanks to Saur (the water treatment plant operator)
    - 3. The maintenance technician: automatically alerted
    - 4. Transporter: automatically alerted.

## STAKEHOLDERS

- ▶ **CUMA Saint-Emilion** (Coopérative d'Utilisation de Matériel Agricole – Machinery sharing cooperative): the tank stock operator.
- ▶ **Vertical M2M**: supplier of the IoT solution for tank management.
- ▶ **Saur**: the water treatment plant operator.

## IMPLEMENTATION

- ▶ **2005:** pilot project with a first tank
- ▶ **2006:** hundreds of managed tanks
- ▶ **2015:** new generation of sensors were installed
- ▶ **Q4 2016:** project of evolution towards a SIGFOX connectivity
- ▶ **Type of contract:** monthly subscription with annual revision
- ▶ **Issues encountered:**
  - Hardware integration and process to make the communication stream reliable due to environmental constraints and sensor reliability.
  - Organizational: at the beginning the special operations for emptying the tanks weren't followed by the transporter (to measure emptied water).



## RESULTS

### /// Responsible handling of natural resources coupled with preservation and improvement of the environment

- Optimization of the processing load supported by the water treatment plant
- Optimization of the transporter's runs
- Optimization of vineyards: monitoring of produced waste water by each winemaker

### /// Economic attractiveness

Better management of the contribution for each CUMA's member thanks to precise monitoring of waster water production.

### /// Partners

- Saur: water treatment plant operator
- CUMA.

## FINANCIAL ASPECT OF THE OPERATION

### /// Funding

- European project
- CUMA Saint-Emilion

→ Funding envelope of about 40 000 €